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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number: 12732-0181001
I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Mail Stop AF, Commissioner for Patents, Box 1450, Alexandria, VA 22313-1450. Date of Deposit Signature Typed or Printed Name of Person Signing Certificate	Application Number 10/720,847	Filed November 25, 2003
	First Named Inventor Hajime Kimura	
	Art Unit 2629	Examiner Michael Pervan

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☐ attorney or agent of record
(Reg. No.)

☒ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34
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April 16, 2010
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ Total of 1 forms are submitted.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Hajime Kimura	Art Unit	: 2629
Serial No.	: 10/720,847	Examiner	: Michael Pervan
Filed	: November 25, 2003	Conf. No.	: 3959
Title	: CURRENT DRIVING CIRCUIT AND DISPLAY DEVICE USING THE CURRENT DRIVING CIRCUIT		

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Pursuant to United States Patent and Trademark Office OG Notices: 12 July 2005, New Pre-Appeal Brief Conference Pilot Program, a request for a review of identified matters on appeal is hereby submitted with a Notice of Appeal. Review of these identified matters by a panel of Examiners is requested because the rejections of record are clearly not proper and are without basis, in view of a clear legal or factual deficiency in the rejections. All rights to address additional matters on appeal in any subsequent appeal brief are hereby reserved.

Claims 1, 7, 18, 28, 59, 64, 66, 71-74 and 76-93 are pending, with claims 1, 18, 76, and 82 being independent. In the final Office Action of December 16, 2009 ("the final Office Action"), the Office rejected claims 1, 7, 18, 28, 59, 64, 66, 71-74 and 76-89 as being unpatentable over U.S. Patent No. 6,373,454 (Knapp) in view of U.S. Patent No. 6,369,786 (Suzuki) and U.S. Patent Application Publication No. 2003/0231152 (Shin). Claims 90-93, each of which depends from one of independent claims 1, 18, 76, and 82, have been rejected as being unpatentable over Knapp, Suzuki, Shin and U.S. Patent Application Publication No. 2002/0008687 (Tazuke).

Claims 1, 7, 18, 28, 59, 64, 66, 71-74, and 76-89

With respect to claim 1 and its dependent claims, neither Knapp, Suzuki, Shin, nor any proper combination of the three, describes or suggests that a gate width of a second transistor connected in the manner recited in claim 1 is larger than a gate width of a first transistor connected in the manner recited in claim 1, and because, even assuming for sake of argument that Knapp and Suzuki may be combined, it would not have been obvious to further modify Knapp and Suzuki in view of Shin in the manner proposed by the Office.

Knapp discloses an active matrix display device. See Knapp at abstract. In Knapp, a switch 33 connects a display element 20 to a drive transistor 30. See Knapp at col. 6, lines 21-25 and FIG. 2. When the switch 33 is closed, the transistor 30 draws current through the display element 20 so as to produce the required amount of light from the display element 20. See Knapp at col. 6, lines 50-53. An input line 35 connects a switch 37 to a node 36 (see Knapp at col. 6, lines 39-43), and an input signal I_{in} corresponding to the current required for the display element 20 is driven through the transistor 30 via the input line 35 (see Knapp at col. 6, lines 63-75 and FIG. 2).

Suzuki discloses a matrix driving apparatus that includes scanning electrodes and signal electrodes, and a precharge circuit connected to the signal electrodes. See Suzuki at col. 3, lines 52-64. In Suzuki, a precharge circuit 3A includes diodes D_1 to D_x, each of which is connected to a corresponding one of signal electrodes SiE_1 to SiE_x. See Suzuki at col. 5, lines 50-52 and FIG. 7. Shin discloses two transistors, M1 and M2, that form a current mirror. See Shin at ¶ 0014, ¶ 0016, and FIG. 2.

The Office appears to equate Knapp's transistor 30 with the recited first transistor and Suzuki's diode D_x included in the precharge circuit 3A with the recited second transistor, but the Office acknowledges that neither Knapp nor Suzuki disclose that a gate width of the second transistor is larger than a gate width of the first transistor. For this feature, the Office relies on Shin, stating, on page 5 of the final Office Action, that "it would have been obvious ... to modify Knapp and Suzuki with the teachings of Shin, gate width of the second transistor being larger than the gate width of the first transistor, because it allows for greater current to flow from the precharge circuit, which allows for a faster precharge." Appellant respectfully disagrees.

First, although Shin discloses that the transistors M1 and M2 have different channel widths, Shin does not disclose which of these transistors has a larger gate width. Accordingly, if one of ordinary skill in the art were to try to modify Knapp and Suzuki in view of Shin, Shin does not teach which one of the transistors in a combined device that includes Knapp's transistor 30 and Suzuki's diode Dx would have a larger gate width. As a result, Shin would not have led to modifying Knapp and Suzuki in a manner that would have resulted in the subject matter of claim 1.

Second, Shin connects the transistors M1 and M2 as a current mirror (see Shin at ¶ 0014), and the relative channel widths of the transistors M1 and M2 are set such that the current flowing to the transistor M2 is higher than that flowing to the transistor M1 (see Shin at ¶ 0016). However, even if Knapp's transistor 30 (which the Office equates with the recited first transistor) and Suzuki's diode D_x (which the Office equates with the recited second transistor) could somehow be combined in the configuration suggested by the Office, the device obtained by combining these elements would not function as a current mirror and, accordingly, there would be no reason to make the gate or channel width of Suzuki's diode D_x greater than that of Knapp's transistor 30 based on the teachings of Shin (which are directed to forming a current mirror).

Third, the Office's rationale for combining Knapp and Suzuki with Shin does not provide a sufficient reason for combining these references. The Office equates Suzuki's diode D_x with the recited second transistor and reasons that it would have been obvious to combine Knapp and Suzuki with Shin because modifying Suzuki's diode D_x to have a larger gate width would allow "for a greater current to flow from the precharge circuit, which allows for a faster precharge." However, Suzuki's diode D_x is connected to a constant current source. See Suzuki at FIG. 7. Thus, even if a gate width of a transistor that acts as the diode D_x could be increased, the amount of current that flows through the transistor would not change because the current is supplied by a constant current source. As a result, greater current would not flow through the diode D_x as a result of increasing the gate width, and, therefore, a desire for greater current flow would not lead to an increase in the gate width.

In response to this argument, the Office asserts that

> [e]ven though a constant current is being applied, the size of the gate width of the transistor determined if all or only a part of the current is able to flow through the transistor similar to how the diameter of a pipe changes how much water flows in the pipe. As a result, the increasing gate width side would allow more of the constant current to flow which allows the desired precharge voltage to be reached more efficiently.

See final Office Action at page 2. Appellant respectfully disagrees and believes that the Office's example relates to what would occur in a circuit including a constant voltage source (such as a battery), not in a circuit such as Suzuki's that includes a constant current source. The current from a constant current source is not influenced by a change in a load coupled to the constant

current source. In contrast, a voltage supply typically behaves in a manner similar to the example provided by the Office, and the current through a resistance coupled to the voltage supply changes if the resistance changes. Accordingly, because the constant current source coupled to D_x provides a constant current to D_x regardless of the gate width, there would have been no reason to increase the gate width of Suzuki's diode D_x.

Finally, in the Response to Argument section on page 2 of the Office Action, the Office asserts that "Shin shows that two transistors can have different gate widths and that the difference in the sizes between the two transistors correlates to the amount of current flow," and, in the Advisory Action of April 5, 2010, the Office argues that "...in this case, the motivation can be found in the knowledge generally available to one of ordinary skill in the art that a larger channel (gate) width increases the flow of current through the transistor." As discussed above, because Suzuki's diode D_x is coupled to a constant current source, even if Shin somehow could be interpreted to show that two transistors can have different gate widths, the increased gate width would not result in more current flowing through the diode D_x because the diode D_x is coupled to a constant current source.

For at least these reasons, Knapp, Suzuki, and Shin, alone or in combination, fail to describe or suggest a driven circuit including a first transistor, a signal line electrically connected to the first transistor through a node, a precharge circuit electrically connected to the signal line and including a second transistor, and a current source electrically connected to the first transistor and the second transistor, where a gate width of the second transistor is larger than a gate width of the first transistor, as recited in independent claim 1. Moreover, it would not have been obvious to modify Knapp and Suzuki with Shin.

Accordingly, appellant requests reversal of the rejection of claim 1 and its dependent claims.

Among other features, amended independent claim 76 recites a driven circuit including a first transistor, a signal line electrically connected to the first transistor through a node, a precharge circuit electrically connected to the signal line and including a second transistor, and a current source electrically connected to the first transistor and the second transistor, where a gate length of the second transistor is smaller than a gate length of the first transistor. Thus, the

rejection of claim 76 and its dependent claims should be reversed for reasons similar to those discussed with respect to claim 1.

Among other features, independent claim 18 recites a driven circuit including a first transistor, and a precharge circuit comprising a second transistor, where a gate width of the second transistor is larger than a gate width of the first transistor. Similarly, independent claim 82 recites that a gate length of the second transistor is smaller than a gate length of the first transistor. Thus, the rejection of claims 18 and 82, and their dependent claims, should be reversed for reasons similar to those discussed above with respect to independent claims 1 and 76.

Claims 90-93

Appellant requests reversal of this rejection at least because Tazuke, which is cited as disclosing "a switch (504) configured to control an electrical connection between two lines," does not remedy the failure of Knapp, Suzuki and Shin to describe or suggest the subject matter of independent claims 1, 18, 76, and 82, from which claims 90-93 respectively depend.

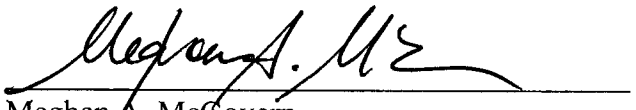
Conclusion

In conclusion, appellant requests that all rejections be reversed.

This request is being filed with a Notice of Appeal and a petition for a one-month extension of time. Please apply any other charges or credits to Deposit Account No. 06 1050.

Respectfully submitted,

Date: April 16, 2010



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